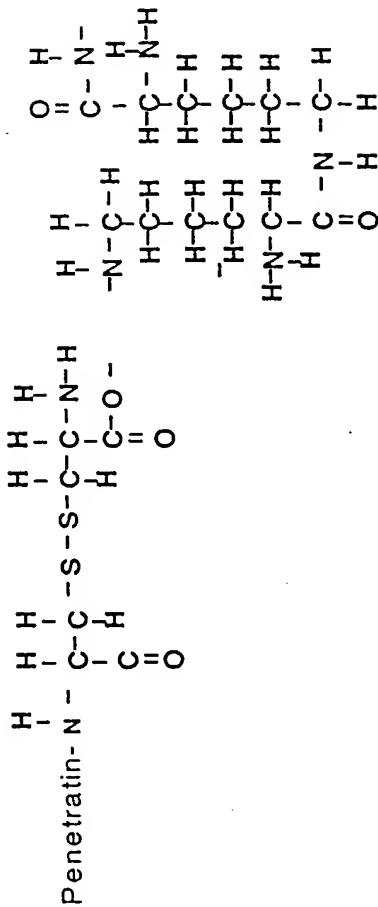


PNA conjugate construct - Diagram



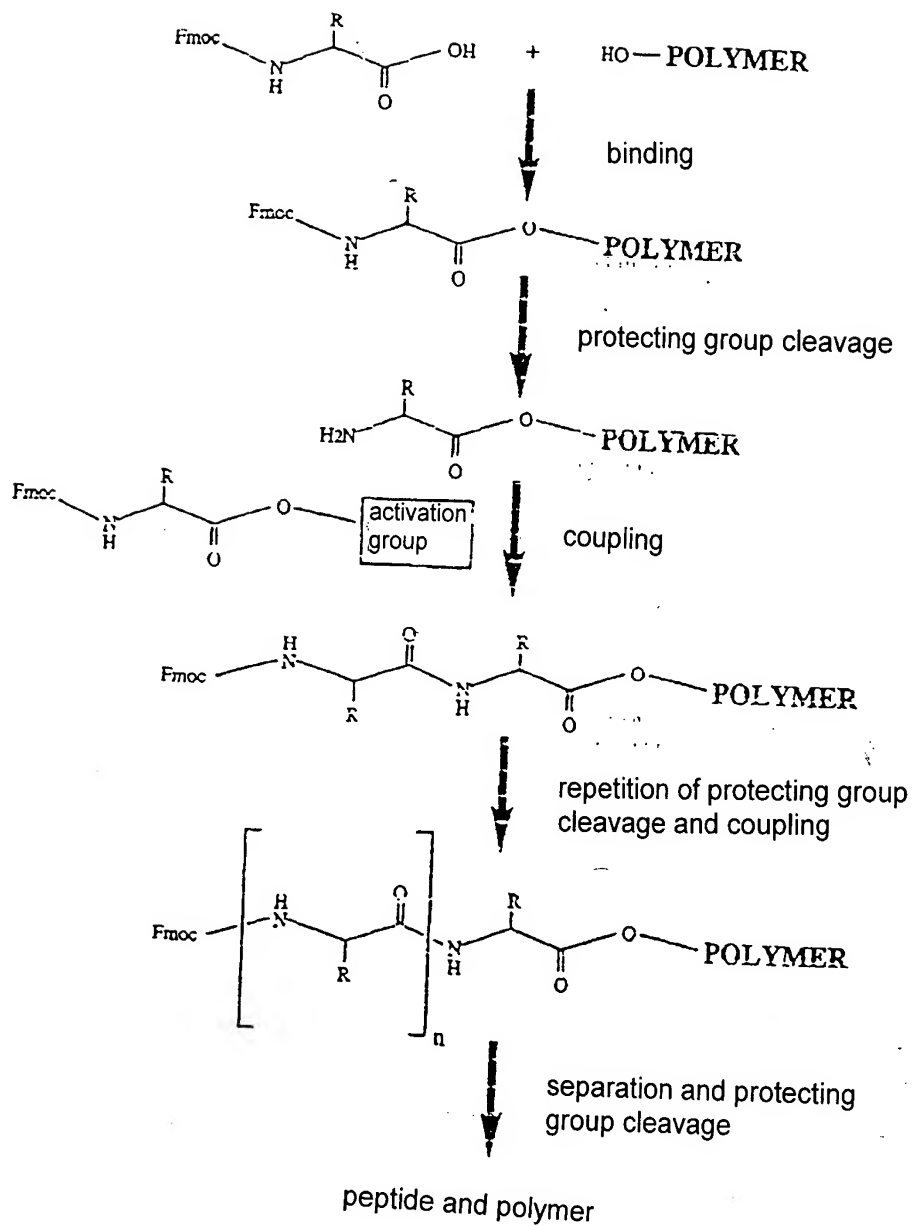
transport protein	cystine	redox cleav.site	..	nuclear localization sequence	spacer specific sequence

Penetratin: P: (pAntp): RQIKIWFGQNRMRMKWKK-

NLS: (Nucl. Localis. Signal)
PKKKRKV

Fig. 1

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general diagram for Fmoc synthesis

Fig. 2

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Cellular take-up of the conjugate according to the invention

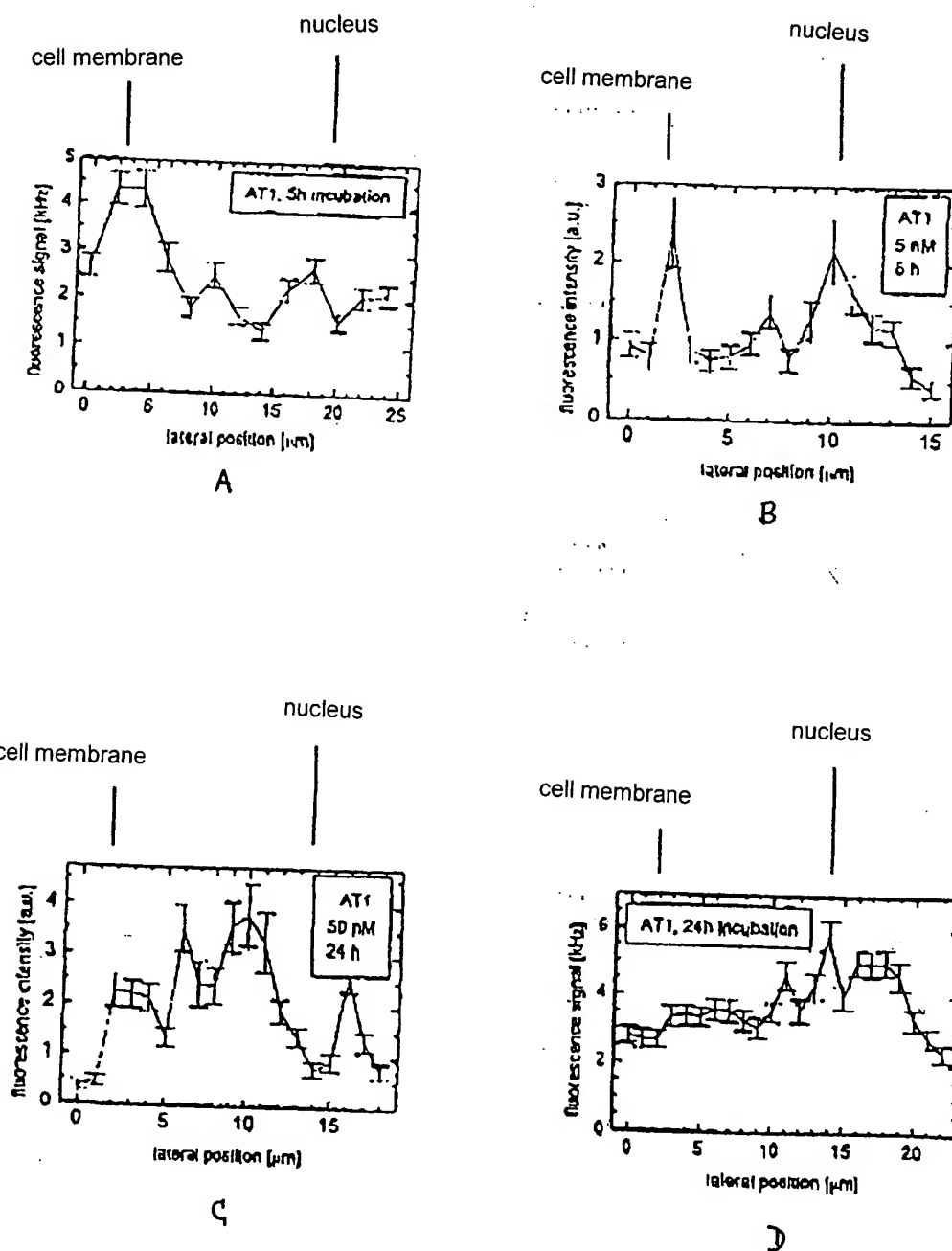


Fig. 3

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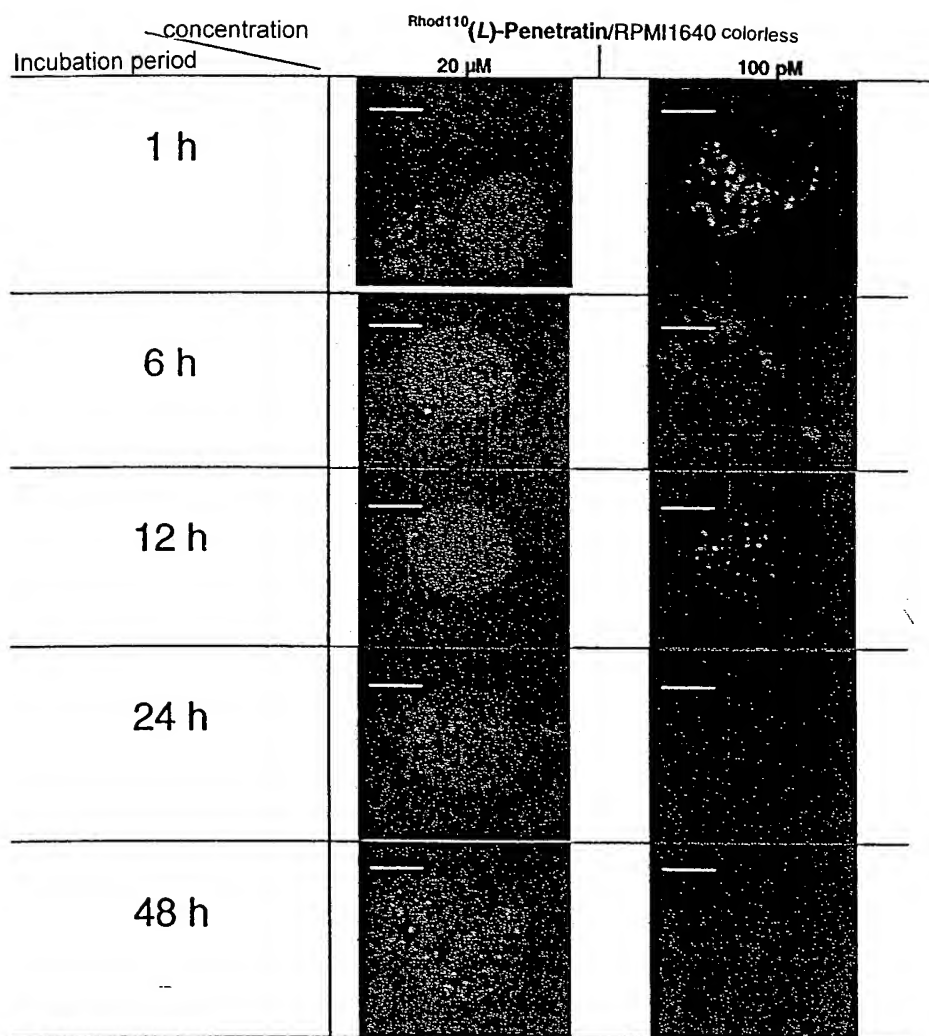


Fig. 4

„Bioshuttle“ - Diagram of modular synthesis

Transport module -S-S- address module spacer active substance

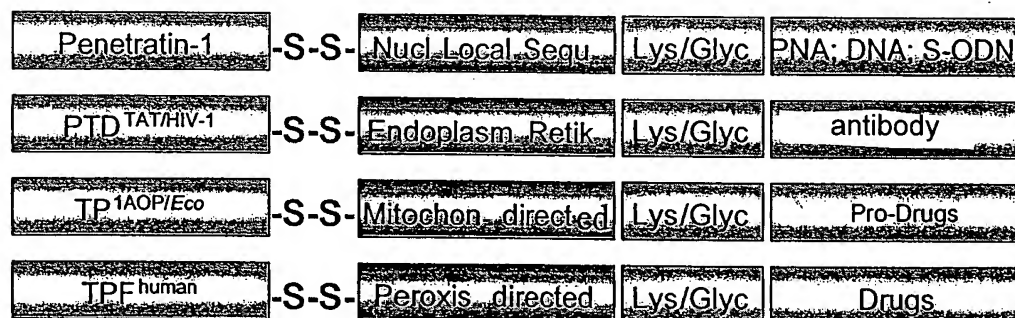


Fig. 5

Proliferation AT-1

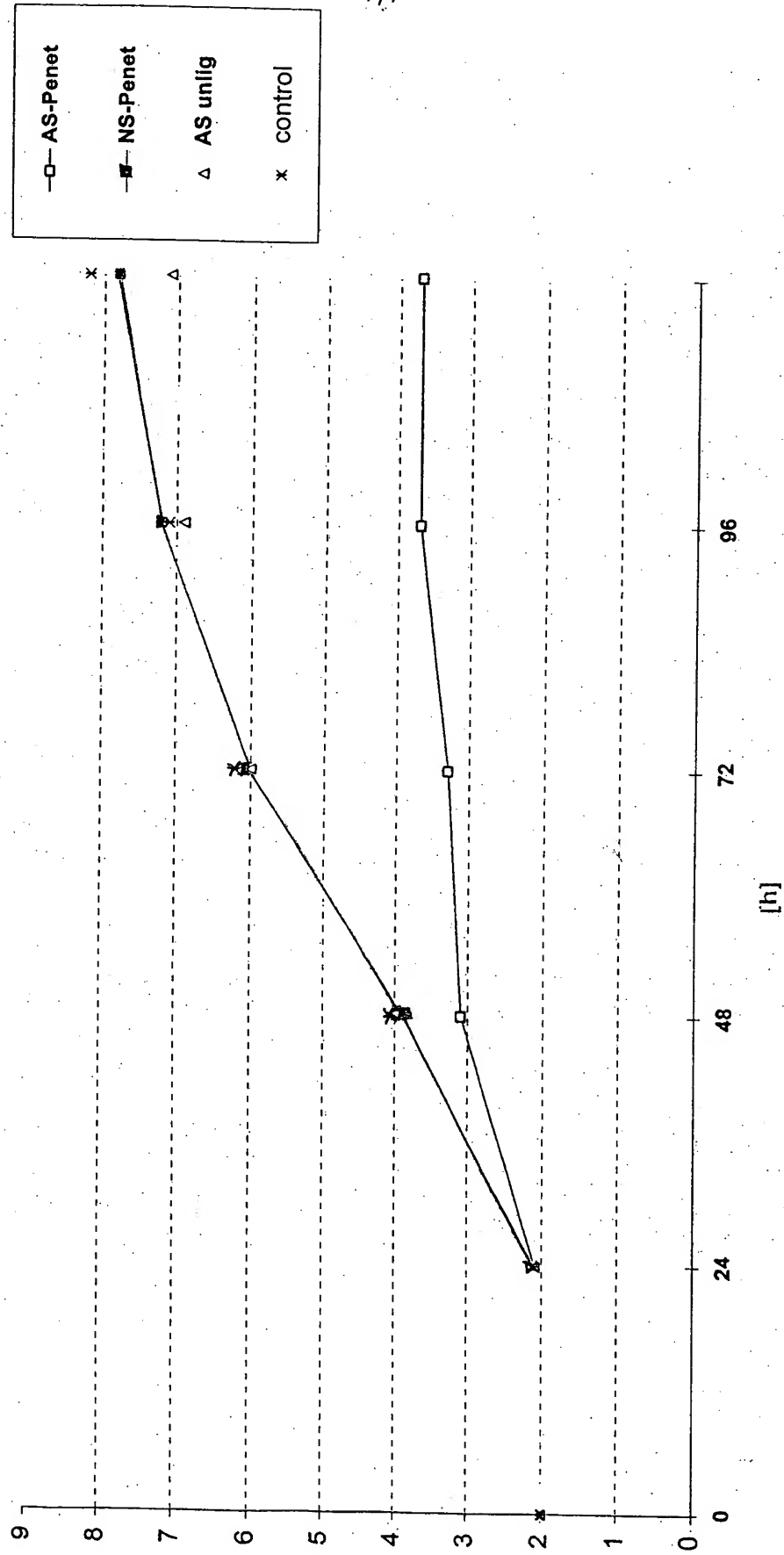
cell number $\times 10^4$ 

Fig. 7

Table 1

Time-dependent intracellular transport of the modules. (Z): cytoplasm; (N): nucleus;
(+): positive signal; (-): no signal. Final conjugate concentration: 100 pM

Transporter	incubation period [h]	Z	N	method
Alexa TM (L)-Penet-S-S-(L)-NLS-KK ^(Rhod110) -PNA	1	+	+	CLSM
	3	+	+	
	6	+	+	
	10	membrane spots	+	
	24	membrane spots	+	
Alexa TM (L)-PTD ^(TAT/HIV-1) -S-S-(L)-KK ^(Rhod110) -PNA	1	+	-	CLSM
	3	+	-	
	10	+	-	
	24	-	-	
Alexa TM (L)-Tp ^(IAOP/EC) -S-S-(L)-NLS-KK ^(Rhod110) -PNA	1	+	+	CLSM
	3	+	+	
	6	+	+	
	10	-	+	
	24	-	+	
Alexa TM (L)-Tp ^(IAOP/EC) -S-S-(L)-KK ^(Rhod110) -PNA	1	+	-	CLSM
	3	+	-	
	6	+	-	
	10	-	-	
	24	-	-	